

## REMARKS

### *Summary of Office Action*

The Examiner objected to the amendment to the specification, alleging that the amendment violated 35 U.S.C. § 132(a) for introducing new matter. The Examiner also rejected claims 7, 28, 45, and 48 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. Further, the Examiner rejected claims 1-21 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

In regard to the substantive examination, the Examiner rejected claims 1-6, 8-27, 29-44, 46, and 47 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,267,953 issued to Bernier et al. (hereinafter “Bernier”) in view of an article in Chemoecology written by Braks et al. (hereinafter “Braks”).

### *Summary of the Amendment*

Upon entry of the present Amendment, Claims 1-8 and 20 will have been amended. As such, Claims 1-48 remain currently pending. By the present amendments and Remarks, Applicant submits that the rejections have been overcome and respectfully requests reconsideration of the outstanding Office Action.

### *Applicant’s Response*

#### 1. Objection to the Specification

The Examiner contends that the amendments to paragraphs [0014] and [0026] to change the group R<sub>2</sub> to R<sub>12</sub> in the structural diagram adds new matter and that the variable R<sub>12</sub> was not disclosed in the specification as filed. *Final Office Action, Page 2.*

First, the statement that, “[t]he variable R<sub>12</sub> was not disclosed in the specification as filed,” is not accurate. Although the structural formula incorrectly recited the variable as R<sub>2</sub> in the original filing, the statement immediately following said formula is, “wherein R<sub>5</sub> to R<sub>12</sub> is selected from the group consisting of Hydrogen, Alkyl, and Aryl.” Thus, the variable R<sub>12</sub> was disclosed in the originally filed specification. Further, both the structural formula and

the language describing the variables of the formula contain eight R<sub>x</sub> groups (i.e., R<sub>2</sub> and R<sub>5</sub>-R<sub>11</sub> in the originally filed structure and R<sub>5</sub>-R<sub>12</sub> in the immediately following language describing the structure). Since the language describing the variables in the structure describe eight R<sub>x</sub> variables, and do not describe any other R<sub>x</sub> variables, it can be seen that this description was intended to fully describe the R<sub>x</sub> variables shown in the structure. Since the other R<sub>x</sub> variables in the structure match with the R<sub>x</sub> variables described in the immediately following language and since the R<sub>x</sub> variables are contiguous, it can be seen that the R<sub>2</sub> variable, which is non-contiguous with the R<sub>5</sub>-R<sub>11</sub> variables in the structure and is merely missing the numeral 1 in front of the printed numeral 2 to form the intended numeral 12, was intended to actually be R<sub>12</sub>, in which case it would make the R<sub>x</sub> variables in the structure contiguous and would match all of the R<sub>x</sub> variables in the structure with the R<sub>x</sub> variables in the immediately following language describing the structure.

Not only does the structure make greater internal sense by changing the R<sub>2</sub> variable to R<sub>12</sub>, it also does not change the compound in any way or add new matter because all of the R<sub>x</sub> variables described in the language following the structure are, “selected from the group consisting of Hydrogen, Alkyl, and Aryl.” Thus, merely changing the numbering of the R<sub>2</sub> variable does not change the actual makeup of the compound. Finally, even if the R<sub>2</sub> variable could be interpreted as the R<sub>2</sub> variable described in another section of the specification, as proffered by the Examiner in the Section 112 rejection which will be discussed later, the R<sub>2</sub> variable is defined as, “selected from the group consisting of Hydrogen, Alkyl, and Aryl.” Thus, again even if the structure recited in paragraphs [0014] and [0026] was intended to recite the R<sub>2</sub> variable as described elsewhere in the specification, the mere numerical change to an R<sub>12</sub> variable would not change the underlying structure of the compound and as such no new matter has been added to the specification by these amendments which are merely made to place the claim language in a form that makes internal sense, while the underlying chemical groups within the structure have not been changed.

As such, the Applicant respectfully submits that no new matter has been added by these amendments and requests that the objection to the specification be withdrawn.

2. Section 112, First Paragraph, Rejection of Claims 7, 28, 45, and 48

The Examiner asserts that the claims have been amended to include compounds that were not contemplated in the specification as filed and therefore the amended claims contain new matter. *Final Office Action, Pages 2-3*. The Examiner asserts that changing the R<sub>2</sub> variable to R<sub>12</sub> has added new matter. *Id. at 3*. The Examiner contends that the mistake of a chemical name is an obvious error that may be overcome without adding new matter while a mistake in a variable number is not an obvious error that may be overcome without adding new matter. *Id.* The Examiner further submits that, “newly added claim limitations must be supported in the specification through express, *implicit or inherent disclosure*.” *Id.* (emphasis added). Finally, the Examiner contends that one could interpret the R<sub>2</sub> variable to have the meaning set forth in claim 6. *Id. at 3-4*.

As discussed in detail above in relation to the new matter objection to the specification, Applicant respectfully submits that no new matter has been introduced to the claims by the amendment. Any possible interpretation of the R<sub>2</sub> (now R<sub>12</sub>) variable would not change the chemical formula of the structure at all. As was discussed above, all possible interpretations, including the Examiner’s proffered interpretation that it have the meaning of R<sub>2</sub> in claim 6, would make the chemical formula of R<sub>2</sub> (R<sub>12</sub>) to be selected from the group consisting of Hydrogen, Alkyl, and Aryl. Thus, there has been no change to the actual compound by this amendment, all that has been changed is the numerical ordering of the R<sub>x</sub> variables so that they make internal sense within the claims.

This is less drastic of a change than even what the Examiner admits is an allowable change. The Examiner described how *In re Oda* permitted the change from nitrous acid to nitric acid. This change is an actual change in chemical formula, i.e., from HNO<sub>2</sub> to HNO<sub>3</sub>, as opposed to the present change where it has been shown that the chemical formula has not changed at all, only the number representing the formula.

Finally, the Examiner acknowledged that the support for newly added claim limitations may be based on implicit or inherent disclosure within the specification. As has been described above, whether taking Applicant’s view that R<sub>2</sub> was merely a typographical error of omitting the initial number 1 and was intended to read R<sub>12</sub>, or the Examiner’s assertion that it was intended to have the meaning of R<sub>2</sub> in claim 6, the result is the same, R<sub>2</sub>

or R<sub>12</sub> represents a chemical selected from the group consisting of Hydrogen, Alkyl, or Aryl. Thus, in any interpretation the claim limitations remain the same and the underlying chemical formula of the compound remains the same. Thus, Applicant respectfully submits that no new matter has been added due to these amendments and requests that the Examiner withdraw this rejection.

3. Section 112, Second Paragraph, Rejection of Claims 1-21

The Examiner submits that the limitation “lipid based media” in claims 1-8 and 20 lack sufficient antecedent basis since Claim 1 was amended to recite having an “artificial lipid based media.” *Final Office Action, Page 4.*

Claims 1-8 and 20 have currently been amended to recite, “artificial lipid based media.” As such, Applicant respectfully submits that this rejection has been overcome and as such this rejection should now be withdrawn.

4. Section 103(a) Rejection of Claims 1-6, 8-27, 29-44, 46, and 47

The Examiner asserts that Bernier provides motivation to modify its disclosed synergistic mixtures with compounds obtained from skin or hair washings in order to enhance the synergistic mixture. *Final Office Action, Page 5.*

Applicant’s independent Claim 1 as currently amended recites, *inter alia*, “...providing an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host ... combining the artificial lipid based media and the microorganisms...”

The Bernier et al. patent is directed toward a chemical composition that attracts arthropods, wherein the composition contains one or more carboxylic acids selected from a specific formula I mixed with one or more compounds selected from a specific group II. *Column 20, lines 10-18.* The Examiner cites language from Bernier discussing that, “The efficacy of the compositions of the present invention in attracting arthropods, may be further enhanced by adding one or more of the chemical compositions of skin washing or hair washings as disclosed in Bernier, Ph.D. dissertation...,” (*Column 20, lines 1-4*) and that,

"the efficacy of the compositions of the present invention in attracting arthropods, may be further enhanced by adding one or more of light, heat and moisture." (*Column 20, lines 7-9*). The Examiner, however, may have overlooked the import of the following passage also explicitly stated in the Bernier patent, i.e., "it is appreciated that those skilled in the art recognize that the compositions of the present invention include one or [more] compounds of the formula I and one or more compounds of group II compounds." *Column 20, lines 10-13* (emphasis added).

Thus, it can be seen that even if Bernier teaches or suggests adding skin washings, it still requires the base of a carboxylic acid of formula I and at least one particular compound selected from the recited group II. In other words, Bernier's invention may be enhanced by adding skin washings to its synergistic blend of compounds; however, the synergistic blend of compounds from formula I and group II are still required.

Because Applicant's independent Claim 1 does not require compounds from both Bernier's formula I and group II, the combination of Bernier and Braks cannot teach or suggest all of the elements as recited in Applicant's independent Claim 1. Further, neither Bernier nor Braks teach or suggest using an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host in combination with microorganisms. As such, Applicant submits that it would not have been obvious at the time the claimed invention was made to take the teachings of the Bernier et al. patent and the Braks et al. reference and modify them so as to reach the above-noted features of the present invention, and thus, the rejection of at least independent Claim 1 under 35 U.S.C. § 103(a) is improper and should be withdrawn.

Applicant further submits that Claims 2-19 are allowable for the reason that these claims depend on allowable independent Claim 1 and because these claims recite additional features that further define the present invention.

Applicant further submits that independent Claim 20 likewise contains language reciting, inter alia, "...providing an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host ... combining the artificial lipid based media and the microorganisms..."

For the reasons discussed above in relation to independent Claim 1, because Bernier requires a synergistic blend of a formula I compound and a group II compound and because neither Bernier nor Braks teach or suggest using an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host in combination with microorganisms, Applicant's independent Claim 20 has not been shown to be obvious in light of the cited prior art references.

Applicant respectfully submits that, thus, the rejection of at least independent Claim 20 under 35 U.S.C. § 103(a) is improper and should be withdrawn along with the rejection of dependent Claim 21.

Applicant also submits that independent Claim 22 likewise contains similar language reciting, inter alia, "...providing an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host ... combining the artificial lipid based media and the enzymes..."

For the reasons discussed above in relation to independent Claim 1, since Bernier requires a synergistic blend of a formula I compound and a group II compound and because neither Bernier nor Braks teach or suggest using an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host in combination with enzymes, Applicant's independent Claim 22 has not been shown to be obvious in light of the cited prior art references.

Applicant respectfully submits that, thus, the rejection of at least independent Claim 22 under 35 U.S.C. § 103(a) is improper and should be withdrawn along with the rejection of dependent Claims 23-40.

Applicant also submits that independent Claim 41 likewise contains language reciting, inter alia, "...providing an artificial lipid based media that is not attractive to

arthropods which are parasitic to a vertebrate host ... combining the artificial lipid based media and the enzymes..."

For the reasons discussed above in relation to independent Claim 1, since Bernier requires a synergistic blend of a formula I compound and a group II compound and because neither Bernier nor Braks teach or suggest using an artificial lipid based media that is not attractive to arthropods which are parasitic to a vertebrate host in combination with enzymes, Applicant's independent Claim 41 has not been shown to be obvious in light of the cited prior art references.

Applicant respectfully submits that, thus, the rejection of at least independent Claim 41 under 35 U.S.C. § 103(a) is improper and should be withdrawn along with the rejection of dependent Claim 42.

Independent Claims 43 and 46 recite, *inter alia*, "...providing a lipid selected from the group consisting of glycerides, sterols, sterol esters, sterol phosphates, sterol precursors, wax, wax esters, wax alcohols, and wax aldehydes..."

Applicant respectfully submits that, as has been shown above in relation to independent Claim 1, Bernier absolutely requires a synergistic blend of a formula I compound and a group II compound. In contrast, these claims use only a single lipid chosen from a limited group as recited in the claims. As such, it would appear that Applicant's independent Claims 43 and 46 have not been shown to be obvious in light of the cited prior art references. Further, it appears that the Examiner has addressed the arguments presented by Applicant in respect to the patentability of these claims in the current office action, but that the Examiner has not properly examined the language as presented in the claims and given a proper evidentiary basis for their rejection.

As such, Applicant respectfully submits that the rejections of at least independent Claims 43 and 46 under 35 U.S.C. § 103(a) are improper and should be withdrawn along with the rejections of dependent Claims 44, 45, 47, and 48.

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***Conclusion***

Applicant respectfully submits that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 112 and 103, and respectfully requests that the Examiner indicate allowance of each and every pending claim of the present invention.

In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious Applicant's invention as recited in each of Claims 1-48. The applied references of record have been discussed and distinguished, while significant claim features of the present invention have been pointed out.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

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